

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/014182

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/073068 A (GENENCOR INTERNATIONAL, INC; HARDING, FIONA, A) 4 September 2003 (2003-09-04)	1-12, 14-25, 27-36, 38-46
Y	page 33, paragraph 4 page 38 - page 42, paragraph 2 examples 1-7 claims 1-23,37-41 ----- -/-	13,26, 37,47



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

23 October 2006

Date of mailing of the international search report

21.12.2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
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International application No

PCT/US2005/014182

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	STICKLER M ET AL: "AN IN VITRO HUMAN CELL-BASED ASSAY TO RANK THE RELATIVE IMMUNOGENICITY OF PROTEINS" TOXICOLOGICAL SCIENCES, ACADEMIC PRESS, SAN DIEGO, FL., US, vol. 77, no. 2, February 2004 (2004-02), pages 280-289, XP009048573 ISSN: 1096-6080 page 281 - page 288 figures 2-5 table 1	1-12, 14-25, 27-36, 38-46
Y	HERMAN A E ET AL: "Determination of glutamic acid decarboxylase 65 peptides presented by the type I diabetes-associated HLA-DQ8 class II molecule identifies an immunogenic peptide motif." JOURNAL OF IMMUNOLOGY (BALTIMORE, MD. : 1950) 1 DEC 1999, vol. 163, no. 11, 1 December 1999 (1999-12-01), pages 6275-6282, XP002401650 ISSN: 0022-1767 cited in the application page 6276 table 2	13,26, 37,47
A	JONES K R ET AL: "POLYCLONAL IN-VITRO PROLIFERATIVE RESPONSES FROM NONIMMUNE DONORS TO PLASMODIUM-FALCIPARUM MALARIA ANTIGENS REQUIRE UCHL1-POSITIVE MEMORY T CELLS" EUROPEAN JOURNAL OF IMMUNOLOGY, vol. 20, no. 2, 1990, pages 307-316, XP009072832 ISSN: 0014-2980 page 308 table 1 figure 1	13,26, 37,47
X	STICKLER M ET AL: "Human population-based identification of CD4<+> T-cell peptide epitope determinants" JOURNAL OF IMMUNOLOGICAL METHODS, ELSEVIER SCIENCE PUBLISHERS B.V.,AMSTERDAM, NL, vol. 281, no. 1-2, 1 October 2003 (2003-10-01), pages 95-108, XP004468182 ISSN: 0022-1759 the whole document	1-3

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/072746 A (GENENCOR INTERNATIONAL, INC; HARDING, FIONA, A) 4 September 2003 (2003-09-04) the whole document	1-3
X	WO 03/042656 A (GENENCOR INTERNATIONAL, INC; HARDING, FIONA, A; POWER, SCOTT, D) 22 May 2003 (2003-05-22) the whole document	1-3
X	WO 02/40997 A (GENENCOR INTERNATIONAL, INC; ESTELL, DAVID, A; HARDING, FIONA, A) 23 May 2002 (2002-05-23) the whole document	1-3
X	STICKLER M M ET AL: "CD4+ T-CELL EPITOPE DETERMINATION USING UNEXPOSED HUMAN DONOR PERIPHERAL BLOOD MONONUCLEAR CELLS" JOURNAL OF IMMUNOTHERAPY, LIPPINCOTT WILLIAMS & WILKINS, HAGERSTOWN, MD, US, vol. 23, no. 6, November 2000 (2000-11), pages 654-660, XP008040520 ISSN: 1524-9557 the whole document	1-3
X	STICKLER M ET AL: "A Human Dendritic Cell-Based Method to Identify CD4+ T-Cell Epitopes in Potential Protein Allergens" ENVIRONMENTAL HEALTH PERSPECTIVES, vol. 111, no. 2, February 2003 (2003-02), pages 251-254, XP002982415 ISSN: 0091-6765 the whole document	1-3
X	HARDING F: "CD4+ T cell epitope identification: Applications to allergy." CLINICAL AND EXPERIMENTAL ALLERGY, vol. 33, no. 5, May 2003 (2003-05), pages 557-565, XP002401652 ISSN: 0954-7894 the whole document	1-3

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-47 (all in part)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within proteases

2. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within subtilisins

3. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within lipases

4. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within cellulases

5. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within amylases

6. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within oxidases

7. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within isomerases

8. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within kinases

9. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within phosphatases

10. claims: Claims 1-47 (all in part)
Identification of T-cell epitopes within lactamases

11. claims: Claims 1-47 (all in part)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Identification of T-cell epitopes within reductases

12. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within cytokines

13. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within antibodies

14. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within soluble receptors

15. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within fusion proteins

16. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within structural proteins

17. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within binding proteins

18. claims: Claims 1-47 (all in part)

Identification of T-cell epitopes within hormones

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Information on patent family members

International application No
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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 03073068	A	04-09-2003	AU	2003223197 A1	09-09-2003
			CA	2476790 A1	04-09-2003
			CN	1639571 A	13-07-2005
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			EP	1483581 A2	08-12-2004
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			JP	2006513691 T	27-04-2006
			MX	PA04008144 A	26-11-2004

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			CA	2424720 A1	23-05-2002
			EP	1469721 A2	27-10-2004
			JP	2004528013 T	16-09-2004
